

## REMARKS

Claims 1-12, 17-24, 26-28, 30-50 are now pending in the application. Claims 13-16, 25, and 29 have been cancelled without prejudice. New Claims 45-50 have been added. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### REJECTION UNDER 35 U.S.C. § 102; KREWALK

Claims 1-6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Krewalk (U.S. Pat. No. 4,682,091). This rejection is respectfully traversed.

A terminal device 196 of Krewalk comprises a display section as shown, which can display information such as a position of a telescope in degrees declination/right ascension, or a list showing which object should currently be in view. The displayed information is thus expressed by means of **text only**.

In contrast, claim 1 recites a terminal device comprising “an image display section for indicating **a star map image** for a predetermined area on a celestial sphere **in accordance with a display scale factor**.” Similarly, Claim 5 recites “an image display section for indicating **a star map image** for a predetermined area on a celestial sphere **in accordance with a display scale factor**.” Applicants believe Krewalk does not disclose or suggest displaying a star map image as recited in claim 1 and claim 5.

Claim 1 further recites “a **scale factor input means**” and “**a speed of rotation** of an astronomical telescope . . . is changed in accordance with **a decreasing function of the display scale factor** specified by said scale factor input means.” Thus, if the display scale factor is larger, which means that a narrower area on a celestial sphere is

displayed on the image display section, the astronomical telescope can be controlled so that its speed of rotation is slower. This control can reduce the chance that a user might miss a target object displayed on the image display section because the displayed image is too quickly changed due to a larger display scale factor (which might likely otherwise occur if the speed of rotation remaining unchanged). Similarly, if the display scale factor is smaller, which means that a wider area on a celestial sphere is displayed on the image display section, the astronomical telescope can be controlled so that its speed of rotation is higher. This can reduce the time it takes for the user to change a displayed area to direct the telescope toward another target celestial object. Accordingly, the subject invention can provide the user with a user-friendly device for controlling the speed of rotation of the telescope in association with the display scale factor. Applicants believe Krewalk additionally does not disclose or suggest a scale factor input means or controlling the speed of rotation based upon the scale factor input.

For at least these reasons, Applicants believe that Krewalk does not disclose or suggest the inventions as recited in claim 1 and claim 5. Since each of claims 2-4 and 6 depends from one of claim 1 or claim 5, Applicants believe they are likewise patentable for at least the reasons discussed above. In addition, Applicants similarly believe new claims 45-50 are also patentable for at least the reasons discussed above, since they also depend, directly or indirectly from claim 1.

### **REJECTION UNDER 35 U.S.C. § 102; LEMP**

Claims 7-27 and 41-44 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Lemp (U.S. Pub. No. 2002/0152620). This rejection is respectfully traversed.

Claim 7 and claim 10 recite “a celestial object identification means for identifying a celestial object whose image has been captured by an image-capturing means, **by comparing said image of celestial object captured by the image-capturing means with a set of celestial object information in a celestial object database.**” For example, arrangement data of a celestial object containing the position coordinate and brightness of each celestial object can be compared with a plurality of arrangement data of a fundamental celestial object provided as a candidate that has been obtained by extraction from the celestial object database while shifting one-by-one a region of the same area, so as to calculate the similarity therebetween, in which the candidate arrangement area of a celestial object giving the highest similarity can be identified as the image-captured area. Thus, accuracy in identifying a celestial object, and therefore accuracy in performing an alignment process, can be highly increased because the actually captured image is used to locate a celestial object.

In contrast, Lemp uses a magnetic sensor and a gravitational sensor to identify a celestial object, and does not use a comparison between the captured image and information stored in the database. Further, Lemp does not provide any suggestion as to how a captured image could be used to identify a celestial object.

Accordingly, Applicants believe Lemp does not disclose or suggest automatic introduction apparatuses as recited in claim 7 and claim 10. Since each of claims 8, 9,

11, 12, 41, 42, and 44 depends from one of claims 7 or 10, Applicants believe they are likewise patentable for at least the reasons discussed above.

Claim 17 recites “a **plurality of astronomical telescopes**” and “a **plurality of automatic introduction apparatuses**, each of which is connected to each of astronomical telescopes, each of the automatic introduction apparatuses being capable of controlling a rotation of its corresponding astronomical telescope to automatically introduce each of target celestial objects” and “a **single terminal device** having a right of control of said plurality of automatic introduction apparatuses.” In contrast, Lemp discloses a device 110 as a **single** telescope, rather than a plurality of telescopes as claimed.

Accordingly, Applicants believe Lemp does not disclose or suggest a control system for a plurality of telescopes as recited in claim 17. Since each of claims 18-23, and 27 depends from claim 17, Applicants believe they are likewise patentable for at least the reasons discussed above.

Claim 24 recites “upon receipt of the request signal for the introduction of celestial object from each of said **plurality of terminal devices**, **assigns an execution sequence** to said request signal for the introduction of the celestial object **in accordance with a predetermined sequence**.” In contrast, Lemp discloses a device 110 conducting tours of constellations chosen through an input to a **single** terminal device, rather than a plurality of terminal devices as recited in claim 24. Further, Lemp does not assign an execution sequence on the basis of a predetermined sequence as recited in claim 24.

Accordingly, Applicants believe that Lemp does not disclose or suggest a control system for an astronomical telescope as recited in claim 24. Since each of claims 26 and 43 depends from claim 24, Applicants believe they are likewise patentable for at least the reasons discussed above.

#### **REJECTION UNDER 35 U.S.C. § 102; SNODDY**

Claims 28-40 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Snoddy et al. (U.S. Pub. No. 2004/0068564). This rejection is respectfully traversed.

Claim 28 recites a controller that has “a function for aggregating received sets of information of said introduced celestial objects and ***ranking the celestial objects with each other***” and executes a selected one of services defined in the claim. In contrast, the ranking system disclosed in paragraph [0053] of Snoddy is provided to ***rank telescopes***. Ranking of telescopes as disclosed in Snoddy is quite different from a ranking system to ***rank celestial objects*** as recited in claim 28.

Accordingly, Applicants believe that Snoddy does not disclose or suggest a control system for an astronomical telescope that ranks celestial objects as recited in claim 28. Since each of claims 34-36 depends from claim 28, Applicants believe they are likewise patentable for at least the reasons discussed above.

Claim 30 recites that the controller has “a function for ***classifying a type of user of each automatic introduction apparatus*** based on said received observation information.” In contrast, although Snoddy discloses that a professional astronomer or novice astronomer may select a celestial object through a user interface in paragraph [0039], the description in the relevant paragraph and the remaining description does not

suggest that a type of user of each automatic introduction apparatus is classified based on observation information actually observed in each automatic introduction apparatuses, or that a service depending on the classified type is conducted.

Accordingly, Applicants believe Snoddy does not disclose or suggest classifying a type of user of each automatic introduction apparatus as recited in claim 30. Since each of claims 31-33 depends from claim 30, Applicants believe they are likewise patentable for at least the reasons discussed above.

Claim 37 recites “a **plurality of automatic introduction apparatuses**” and “a **sequential and shifting control** of said plurality of automatic introduction apparatuses enables a **serial tracking observation of a single target celestial object by a plurality of astronomical telescopes.**” In contrast, Snoddy merely discloses that a batch job executor 170 may be used to maintain a request queue for one or more telescopes; the scheduler 130 sends multiple user requests to control the telescope 160 to obtain image data; and the requests are queued by the batch job executor 170, in paragraph [0036]. However, the description of the paragraph and the other descriptions of Snoddy do not suggest that the multiple user requests are set to enable a **serial tracking observation of a single target celestial object** by a plurality of astronomical telescopes as recited in claim 37.

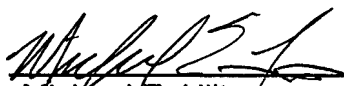
Accordingly, Applicants believe Snoddy does not disclose or suggest the serial tracking of a single target celestial object by a plurality of astronomical telescopes as recited in claim 37. Since each of the claims 38-40 depends from claim 37, Applicants believe they are likewise patentable for at least the reasons discussed above.

## **CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: November 5, 2007

By:   
Michael E. Hilton,  
Reg. No. 33,509

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600

MEH/jks